

TABLE 2
TOXICITY OF VARIOUS RODENTICIDE WAX BLOCKS AGAINST RODENTS IN FIELD

Rodenticide wax cakes	Concentration (%)	Feeding in days	Live burrow count		Control Success percentage
			Pretreatment	Post treatment	
Fumarin (Ratokilbar)	0.025	2	174	38	78
Warfarin (Rodafarn-R)	0.025	2	192	48	75
Bromadiolone	0.005	2	188	23	90
Brodifacoum	0.005	2	162	28	88
Cholecalciferol	0.005	2	178	25	86
Flocoumafen	0.005	2	176	35	80

range of rodents. The major rodent species present in this study area were *Meriones hurrianae*, *Rattus melstada* and *Tatera indica*.

April 6, 1995

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10. FISH OILS AS ALTERNATIVE TO RIVER DOLPHIN, *PLATANISTA GANGETICA* (LEBECK) OIL FOR FISHING CATFISH *CLUPISOMA GARUA* IN THE RIVER GANGES, INDIA

(With a plate)

INTRODUCTION

The River dolphin's (*Platanista gangetica*) oil is extensively used in the Ganges and Bramhaputra rivers in fishing operations for the freshwater catfish *Clupisoma garua* (Ham.) (Motwani and Srivastava

1961, *JBNHS* 58:285). It is estimated that oil is extracted from about 50 river dolphins caught annually between Patna and Rajmahal from the Ganges (pers. obs.). It was suggested that the poaching pressure on the river dolphin can be reduced if an alternative to dolphin oil can be found.

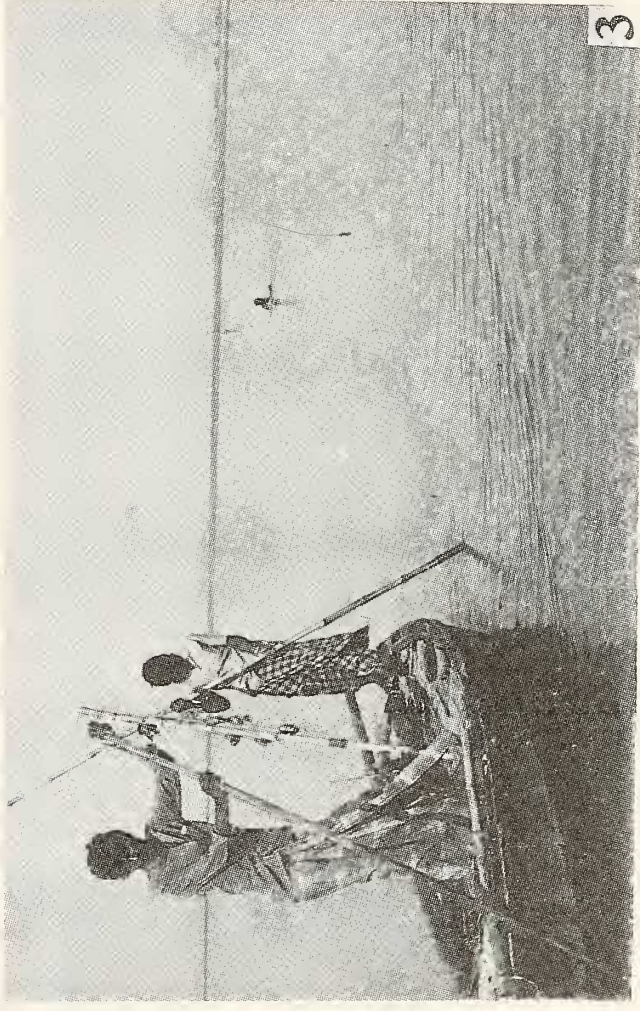
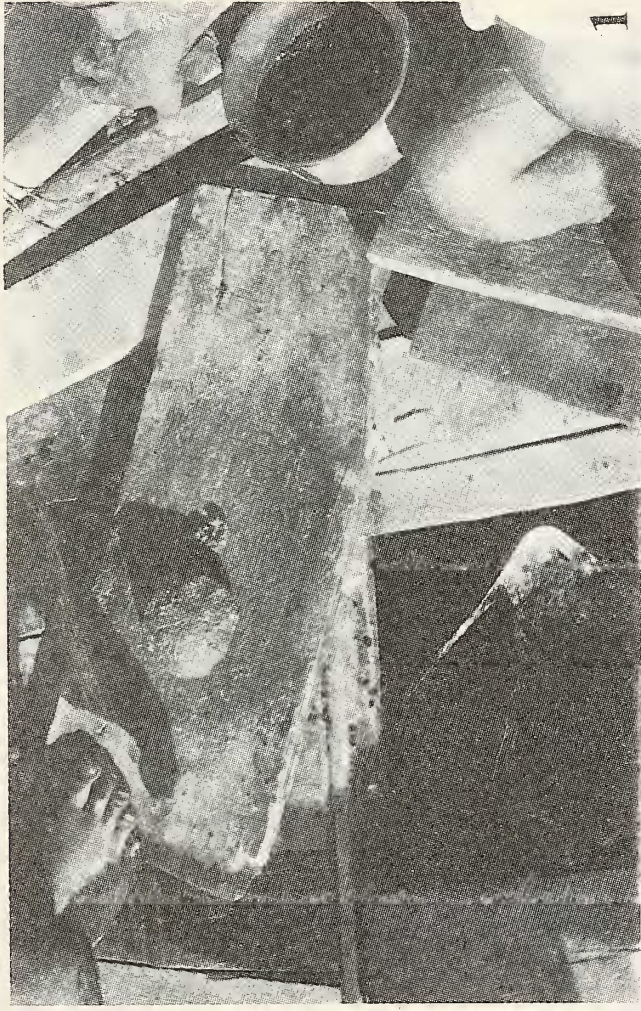


Fig. 1. Dolphin oil bait (on the wooden plank) and the dolphin oil in the aluminium vessel. Preparation of the bait.

Fig. 2. Bait being sprinkled from a 'Machan' in river Ganges. Fig. 3. Second phase of sprinkling of the bait.

Fig. 4. *Clupisoma garua* caught by using the dolphin oil bait in the river Ganges.

The method of using dolphin oil for luring the catfish is interesting. About 300 gm of dry cowdung is powdered and 40 ml of dolphin oil added to it and mixed well (Plate 1, Fig. 1). This mixture is taken in a vessel and sprinkled on the surface of the water by a fisherman seated on a specially made platform known as 'Machan' in the river where the water depth was about 1.5 m (Plate 1, Fig. 2). About two hours after completing the sprinkling of the 'lure' the fisherman moves about 2 km upstream. Another mixture prepared by mincing goat's fat, stomach and intestine with cowdung is made into a ball and a depression made in its centre. About 10 ml oil is poured into it. An experienced fisherman dissolves the 'lure' with a rhythmic action keeping the lure on one hand and pinching a portion and dissolving it with the other hand (Plate 1, Fig. 3). After about an hour when all the 'bait' has dissolved, a rectangular net is prepared to haul the fishes lured by the bait near to the fishermen.

MATERIAL AND METHODS

Easily available fish oils like crude shark liver oil with different acid values, sardine (*Sardinella longiceps*) oil and the Ganges river dolphin oils were used for the experiments. The experiments were conducted in the river Ganges near Bhagalpur in the small village of Colgone, Bihar. The oils were given to the fishermen and they were requested to carry out the fishing in the traditional way under the

supervision of the authors and other field staff. The trials were conducted simultaneously at different centres. It is a mono-species fishery and only *C. garua* were caught.

OBSERVATION

River dolphin Oil: Dolphin oil obtained from blubber was mixed with cowdung and was used for the experiment. Altogether about 60 ml of oil was used, and 17-26 fishes (*C. garua*) (Plate 1, Fig. 4) weighing 580-780 g were obtained in the four trials from 0530 to 1100 hr. But the catch was very poor when the operation was carried out during 1100-1500 hr (Table 1). The stomachs of the fishes caught were gorged with the 'lure' indicating that they fed on it.

Crude shark liver oil: Five trials were conducted by using crude shark liver oil (Table 2). The amount of oil used was the same in all the trials and it was conducted simultaneously in different centres keeping the other parameters constant. During the trials with shark liver oil, 31-51 numbers of fishes weighing 940-1720 gm were obtained. There was no marked difference between the crude oil with different acid values. The catches were very poor when the fishing was conducted at noon. Only one fish was obtained in the noon trials.

Sardine oil: The sardine oil was also found to lure the fishes. But it was not as efficient as shark liver oil. The total weight of fishes obtained during the morning operations ranged from 518 to 1080 g

TABLE I
RESULTS OF THE TRIALS USING RIVER DOLPHIN OIL FOR FISHING IN GANGES

	Expt. 1	Expt. 2	Expt. 3	Expt. 4	Expt. 5
Oil (ml)	60	60	60	60	60
1. Wt. of Mixture (gm)	300	300	300	300	300
2. Wt. of Mixture (gm)	200	200	200	200	200
Duration (hr)	5.30	5.30	5.30	5.30	5.30
Time: (hr)	0530-1100	0530-1100	0530-1100	0530-1150	1100-1500
No. of Fishes	17	26	25	22	4
Length range (mm)	140-190	145-190	142-180	140-175	140-175
Total weight (gm)	580	760	780	670	170
Date	12.4.'91	13.4.'91	14.4.'91	14.4.'91	14.4.'91